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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,937	08/26/2003	James L. Hadder	H0004989	5923

7590 05/12/2005

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EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/648,937		HADDER JAMES	
	Examiner		Art Unit	
	William H. Rodriguez		3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 and 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 10-13, 16, 18, 25 and 27 is/are rejected.
- 7) ☒ Claim(s) 9, 14, 15, 17, 26, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/26/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Election/Restrictions***

1. Applicant's election without traverse of the invention of group II, claims 8-18 and 25-29 in the reply filed on 2/22/05 is acknowledged.

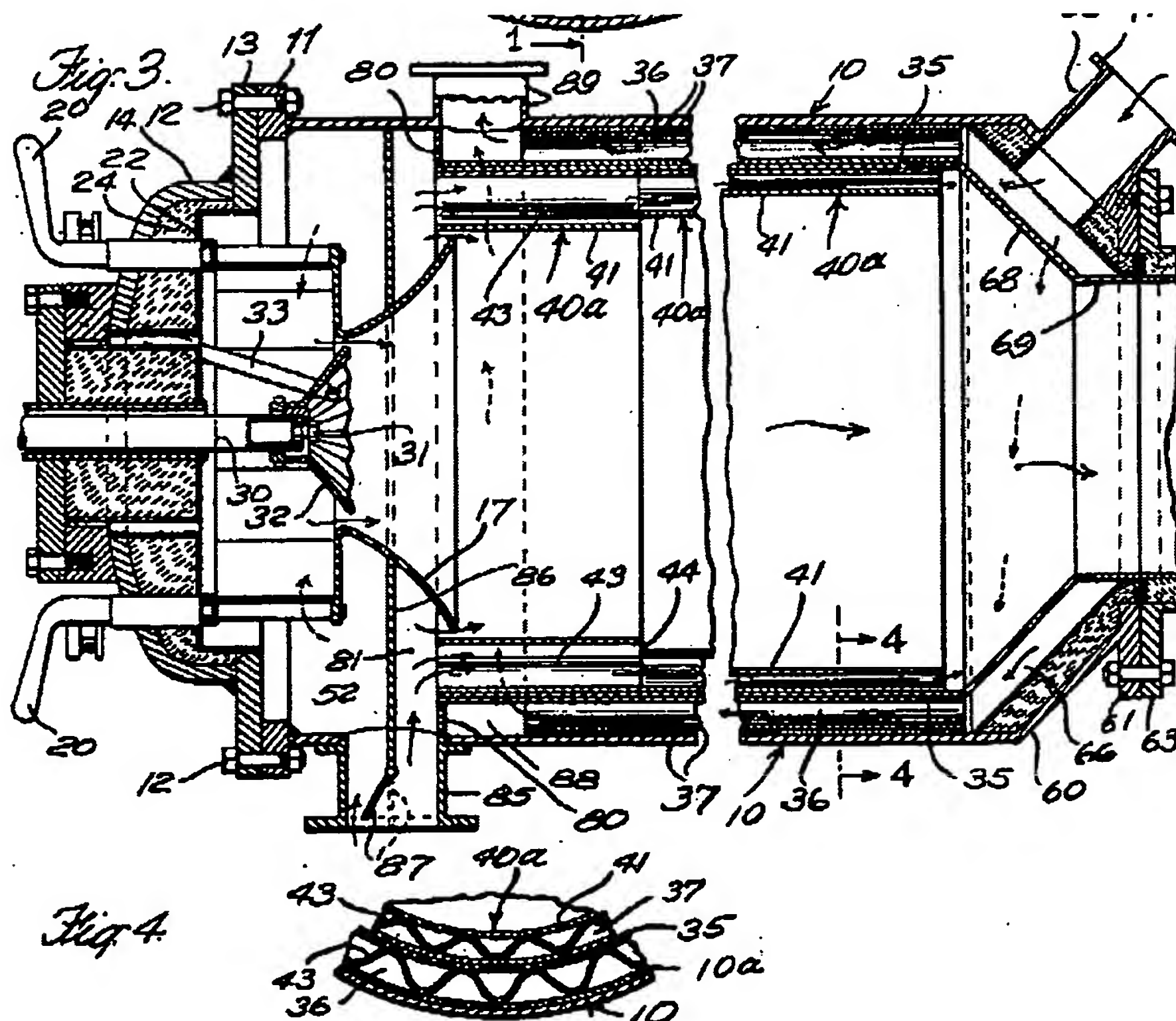
Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8, 10-13, 16, 18, 25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson et al. (US 2,446,059).



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With respect to claim 8, **Peterson** teaches a cooling tube 37 for cooling a liner 41 of a combustor chamber of a gas turbine engine, comprising: the cooling tube having a first end in fluid communication with a plenum supplying air to the combustor chamber, and a second end in fluid communication with an area in proximity with a gas injector 30 comprising the gas turbine engine, wherein the cooling tube has a serpentine shape conforming to a contour of the liner and the serpentine shape of the cooling tube allows the cooling tube to expand and contract in response to temperature gradients in the combustor chamber. See particularly **Figures 2-4** of **Peterson**.

With respect to claim 10, **Peterson** teaches that the cooling tube 37 is positioned outside the combustor chamber along an exterior side of the liner. See particularly **Figure 4** of **Peterson**.

With respect to claim 11, **Peterson** teaches a cooling tube (36 or 37) assembly for cooling a liner (41 or 35) of a combustor chamber of a gas turbine engine, the assembly comprising: a plurality of serpentine cooling tubes 37 attached to the liner, each serpentine cooling tube conforming to a contour of the liner, wherein each serpentine cooling tube 37 has a first end in fluid communication with a plenum supplying air to the combustor chamber and a second end in fluid communication with an area in proximity with a gas injector 30 comprising the gas turbine engine. See particularly **Figures 2-4** of **Peterson**.

With respect to claim 12, **Peterson** teaches the cooling tube 37 assembly is in contact with the liner 41. See particularly **Figure 4** of **Peterson**.

With respect to claim 13, **Peterson** teaches that the cooling tube 36 assembly is maintained a spaced distance from the liner 41. See particularly **Figure 4** of **Peterson**.

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With respect to claim 16, **Peterson** teaches that the plurality of cooling tubes 37 is positioned on an exterior side of the liner 41. See particularly **Figure 4** of Peterson.

With respect to claim 18, **Peterson** teaches that the serpentine shape of each tube is formed as a plurality of alternating convex and concave bends along a length of each tube. See particularly **Figure 4** of Peterson.

With respect to claim 25, **Peterson** teaches a method of cooling a combustor liner 41, comprising: dividing a portion of an incoming pressurized gas stream entering an intake end of the combustor to a plenum located proximate an exhaust end of the combustor, directing the pressurized gas stream from the plenum through a plurality of serpentine cooling tubes (36 or 37) aligned along a surface of the combustor liner, each serpentine cooling tube having a first end in fluid communication with the plenum and a second end in fluid communication with an area proximate with a fuel atomizer 30, allowing the pressurized gas stream flowing through the serpentine cooling tubes to absorb heat from the combustor wall to heat the pressurized gas stream to form a reheated gas stream, and providing the heated gas stream exiting the second ends to the fuel atomizer, whereby the heated gas stream aids combustion. See particularly **Figures 2-4** of Peterson.

With respect to claim 27, **Peterson** teaches that the plurality of serpentine cooling tubes is aligned along an exterior surface of the combustor liner. See particularly **Figure 4** of Peterson.

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Allowable Subject Matter


4. Claims 9, 14-15, 17, 26, 28 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Examiner
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